

Commissioner for Patents

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Amendments to the Claims:

The listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (Cancelled)

2. (Currently Amended) A system for directing a communications light beam from free-space, said system comprising:

a source for generating a reference light beam wherein the reference light beam has a predetermined spatial relationship with the communications light beam;

an optical fiber having an end;

an optical position detector having a target;

an adjustable Micro-Electro-Mechanical-Systems (MEMS) [[MEMS]] mirror;

a first lens for directing the communications light beam to said MEMS mirror and subsequently toward said end of said optical fiber[[,]];

a second lens;

a mirror, said mirror acting in concert with said second lens to direct the reference light beam to said MEMS mirror and subsequently and for directing the reference light beam to an incident point on said optical position detector, said optical position detector configured to generate an error signal indicative of a spatial relationship of the incident point on said optical position detector to the target of said optical position detector; and

a closed loop servo control system for moving said MEMS mirror in response to said error signal to nullify said error signal to direct the communications light beam to a predetermined point on said end of said optical fiber.

3. (Previously Presented) A system as recited in claim 2, wherein the communications light beam is substantially parallel to the reference light beam.

4. (Currently Amended) A system as recited in claim 2, wherein said MEMS mirror is a ~~Micro Electro Mechanical Systems (MEMS) mirror with a reflective surface having a diameter in the range of 1 millimeter to 3 millimeters.~~

5. (Cancelled)

6. (Currently Amended) A system as recited in claim [[5]] 2, wherein said second mirror is positioned between said second lens and said [[first]] MEMS mirror.

7. (Previously Presented) A system as recited in claim 6, wherein said communications light beam is a first communications light beam, said system further comprising a means for directing a second communications light beam from said end of said optical fiber through said system into free space.

8. (Currently Amended) A system as recited in claim 6, wherein said optical fiber is a first optical fiber and the communications light beam is a first communications light beam, said system further comprising:

- a third lens;
- a second optical fiber having an end; and
- a means for directing a second communications light beam from said end of said second optical fiber to said MEMS mirror and subsequently to said ~~thirds~~ third lens.

9. (Previously Presented) A system as recited in claim 8, further comprising:

- a first network coupled to said first optical fiber for receiving the first communications light beam; and
- a second network coupled to said second optical fiber for transmitting the second communications light beam.

10. (Previously Presented) A system as recited in claim 8, further comprising:

- a first amplifier coupled to said first optical fiber for amplifying the first communications light beam; and
- a second amplifier coupled to said second optical fiber for amplifying the second communications light beam.

11. (Currently Amended) A system as recited in claim 6, further comprising:
 - a third lens positioned between said first lens and said [[first]] MEMS mirror for collimating the communications light beam; and
 - a fourth lens located between said [[first]] MEMS mirror and the optical fiber for focusing the communications light beam.
12. (Previously Presented) A system as recited in claim 7, wherein the reference light beam is a first reference light beam, said system further comprising:
 - a means for generating a second reference light beam substantially parallel to the second communications light beam.
13. (Previously Presented) A system as recited in claim 12, wherein said generating means comprises:
 - an LED for producing the second reference light beam; and
 - a third lens for directing the second reference light beam into free-space.

Claims 14-20 (Cancelled)